What is claimed is:

1. A system for monitoring motility of a patient's gastrointestinal tract, comprising:

at least one capsule sized to be ingested by a patient, the at least one capsule adapted to generate a magnetic field;

a sensing device, positioned external to the patient's body, for measuring the magnetic field of the at least one capsule as the at least one capsule progresses through the patient's gastrointestinal tract; and

a processor, operatively connected to the sensing device, for receiving signals from the sensing device and calculating the at least one capsule's magnetic momentum and position within the gastrointestinal tract.

2. The system of claim 1, wherein the at least one capsule houses an emitting coil that produces a high frequency magnetic field.

3. The system of claim 2, wherein the at least one capsule comprises two capsules, and wherein the emitting coil of each capsule emits a signal at a frequency different from that of the other.

4. The system of claim 2, wherein the at least one capsule comprises two capsules, and wherein the emitting coil of each capsule emits a signal at a time different from that of the other.

5. The system of claim 1, wherein the at least one capsule houses a permanent magnet that produces a magnetic field.

6. The system of claim 1, wherein the at least one capsule is coated with a biocompatible coating.

7. The system of claim 1, wherein the sensing device comprises an array of inductive sensors.

8. The system of claim 7, wherein the sensing device comprises a 4x4 array of sensors, and wherein the sensors comprise either Hall sensors, magneto-resistive sensors, or flux-gate sensors.

9. The system of claim 1, wherein the sensing device is incorporated into a belt that is worn by the patient.

10. The system of claim 9, wherein the belt is positioned around the patient's abdomen.

11. The system of claim 1, wherein the processor receives signals from the sensing device in real-time.

12. The system of claim 1, wherein signals from the sensing device are stored in a random access memory during a session, and then downloaded to the processor subsequent to the termination of the session.

13. The system of claim 1, wherein the processor executes an iterative algorithm that continuously calculates the magnetic momentum and position of the at least one capsule as it progresses through the gastrointestinal tract.

14. The system of claim 13, wherein the position of the at least one capsule is defined by five coordinates (x, y, z, θ, φ) representing three translations and two rotations.

15. The system of claim 1, wherein the at least one capsule houses a first emitting coil and a second emitting coil positioned orthogonal to the first emitting coil, and wherein both the first and second emitting coils produce a high frequency magnetic field.

16. The system of claim 15, wherein the processor executes an iterative algorithm that continuously calculates the magnetic momentum and position of the at least one capsule as it progresses through the gastrointestinal tract, and wherein the position of the at least one capsule is defined by six coordinates representing three translations and three rotations.

17. The system of claim 1, further comprising a magnetic field generator, positioned external to the patient's body, adapted to generate a magnetic field when the at least one capsule has reached a targeted treatment site within the patient's gastrointestinal tract.

18. The system of claim 18, wherein the magnetic field generated by the magnetic field generator results in movements of the at least one capsule with respect to digestive mucosa of the patient's gastrointestinal tract so as to stimulate gastrointestinal motility.

19. A method for monitoring motility of a patient's gastrointestinal tract, the method comprising the steps of:

providing at least one capsule to a patient for ingestion, the at least one capsule adapted to generate a magnetic field;

positioning a sensing device external to the patient's body for measuring the magnetic field of the at least one capsule as the at least one capsule progresses through the patient's gastrointestinal tract; and

transmitting signals from the sensing device to a processor to enable the processor to calculate the at least one capsule's magnetic momentum and position within the gastrointestinal tract.

20. The method of claim 19, wherein the at least one capsule houses an emitting coil that produces a high frequency magnetic field.

21. The method of claim 20, wherein the at least one capsule comprises two capsules, and wherein the emitting coil of each capsule emits a signal at a frequency different from that of the other.

22. The method of claim 20, wherein the at least one capsule comprises two capsules, and wherein the emitting coil of each capsule emits a signal at a time different from that of the other.

23. The method of claim 19, wherein the at least one capsule houses a permanent magnet that produces a magnetic field.

24. The method of claim 19, wherein the at least one capsule is coated with a biocompatible coating.

25. The method of claim 19, wherein the sensing device comprises an array of inductive sensors.

26. The method of claim 25, wherein the sensing device comprises a 4x4 array of sensors, and wherein the sensors comprise either Hall sensors, magneto-resistive sensors, or flux-gate sensors.

27. The method of claim 19, wherein the sensing device is incorporated into a belt that is worn by the patient.

28. The method of claim 27, further comprising the step of positioning the belt around the patient's abdomen.

29. The method of claim 19, wherein the step of transmitting signals from the sensing device to the processor occurs in real-time.

30. The method of claim 19, wherein the step of transmitting signals from the sensing device to the processor further comprises the steps of:

storing signals from the sensing device in a random access memory during a session; and

downloading the signals to the processor subsequent to the termination of the session.

31. The method of claim 19, wherein the processor executes an iterative algorithm that continuously calculates the magnetic momentum and position of the at least one capsule as it progresses through the gastrointestinal tract.

32. The method of claim 31, wherein the position of the at least one capsule is defined by five coordinates (x, y, z, θ, φ) representing three translations and two rotations.

33. The method of claim 19, wherein the at least one capsule houses a first emitting coil and a second emitting coil positioned orthogonal to the first emitting coil, and wherein both the first and second emitting coils produce a high frequency magnetic field.

34. The method of claim 33, wherein the processor executes an iterative algorithm that continuously calculates the magnetic momentum and position of the at least one capsule as it progresses through the gastrointestinal tract, and wherein the position of the at least one capsule is defined by six coordinates representing three translations and three rotations.

35. The method of claim 19, further comprising the step of:

positioning a magnetic field generator external to the patient's body, the magnetic field generator adapted to generate a magnetic field when the at least one capsule has reached a targeted treatment site within the patient's gastrointestinal tract.

36. The method of claim 35, wherein the magnetic field generated by the magnetic field generator results in movements of the at least one capsule with respect to digestive mucosa of the patient's gastrointestinal tract so as to stimulate gastrointestinal motility.

37. A system for monitoring motility of a patient's gastrointestinal tract, comprising:

at least two capsules to be ingested by a patient at pre-determined time intervals, the at least two capsules each housing an emitting coil adapted to generate a high frequency magnetic field;

a sensing device, positioned external to the patient's body, for measuring the magnetic field of the at least two capsules as the at least two capsules progress through the patient's gastrointestinal tract; and

a processor, operatively connected to the sensing device, for receiving signals from the sensing device and executing an iterative algorithm that continuously calculates the magnetic momentum and position of the at least two capsules in real-time as they progress through the patient's gastrointestinal tract.

38. The system of claim 37, wherein the emitting coil of each of the at least two capsules emits a signal at a frequency different from that of the other.

39. The system of claim 37, wherein the emitting coil of each of the at least two capsules emits a signal at a time different from that of the other.

40. The system of claim 37, wherein the position of each of the at least two capsules is defined by five coordinates (x, y, z, θ, φ) representing three translations and two rotations.

41. A system for stimulating motility of a patient's gastrointestinal tract, comprising:

at least one capsule sized to be ingested by a patient, the at least one capsule housing a permanent magnet that produces a magnetic field;

means for monitoring the progress of the at least one capsule through the patient's gastrointestinal tract; and

means for applying an external magnetic field when the at least one capsule has reached a targeted treatment site within the patient's gastrointestinal tract such that the external magnetic field results in movements of the at least one capsule with respect to digestive mucosa of the patient's gastrointestinal tract to stimulate gastrointestinal motility.